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GRADUATE SCHOOL OF MEDICINE

ANNOUNCEMENT OF THE

SCHOOL OF TROPICAL MEDICINE

HARVARD MEDICAL SCHOOL

BOSTON, MASS.

1917-18

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SCHOOL OF TROPICAL MEDICINE

OF

HARVARD UNIVERSITY

CATALOGUE AND ANNOUNCEMENT

1917–18

HARVARD SCHOOL OF TROPICAL MEDICINE
240 Longwood Avenue, Boston, Mass.
1917

1917

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CALENDAR

1917

Sept. 21, Friday.	Registration of students and selection of courses.
Sept. 24, Monday.	School term begins. Payment of tuition fee is required on or before this date.
Oct. 12, Friday.	Columbus Day: a holiday.
Nov. 29, Thursday.	Thanksgiving Day: a holiday.

RECESS FROM DEC. 23, 1917, TO JAN. 2, 1918, INCLUSIVE

1918

Feb. 22, Friday.	Washington's Birthday: a holiday.
Mar. 30, Saturday.	School session ends.

ORGANIZATION OF THE SCHOOL OF TROPICAL MEDICINE

ABBOTT LAWRENCE LOWELL, LL.D., PH.D., PRESIDENT OF HARVARD UNIVERSITY.

EDWARD H. BRADFORD, A.M., M.D., DEAN OF THE HARVARD MEDICAL SCHOOL.

HORACE D. ARNOLD, A.B., M.D., DIRECTOR OF THE GRADUATE SCHOOL OF MEDICINE.

ALEXANDER S. BEGG, M.D., DEAN OF THE GRADUATE SCHOOL OF MEDICINE.

RICHARD P. STRONG, PH.B., M.D., SC.D.
DIRECTOR.

CONSULTING BOARD

HAROLD C. ERNST, M.D., A.M.
MILTON J. ROSENAU, M.D., A.M.
HENRY A. CHRISTIAN, A.M., M.D.

OFFICE

The office of the Harvard School of Tropical Medicine is at the office of the Director, Professor RICHARD P. STRONG, Harvard Medical School, Building D, Room 229, 240 Longwood Avenue, Boston, where the business of the School relating to admission of candidates, selection of courses, etc., is conducted.

The office of the Director of the Graduate School of Medicine, Dr. HORACE D. ARNOLD; of the Dean of the Graduate School of Medicine, Dr. ALEXANDER S. BEGG, and of the Secretary of the Graduate School of Medicine, Dr. LEWIS W. HILL, is in the office of the Harvard Graduate School of Medicine, Administration Building, 240 Longwood Avenue, Boston, Mass., where the tuition fee should be paid and where the routine business of the School is conducted. The office hours of the Dean are daily at 12 M.

GENERAL INFORMATION

The courses in the Harvard School of Tropical Medicine will begin September 24, 1917, and will continue until March 30, 1918. The courses will be open to graduates from recognized medical schools. Properly qualified students (not necessarily graduates of medicine) will be admitted to single courses, or to any number of courses which they may care to select from the various subjects offered. The School aims to give an adequate preparation to those physicians who intend to practice where tropical or exotic diseases may be prevalent or occasionally encountered, and to those who wish to broaden the general field of their medical knowledge or to pursue original investigations in relation to exotic medicine.

No training will assist more the general medical student and investigator in his understanding of modern scientific medicine, or give him a wider grasp of the subject than a training in tropical medicine and its allied branches, protozoölogy, helminthology, entomology, and bacteriology, which subjects really form the groundwork of exotic medicine, and can best be taught in connection with it.

Opportunities in Tropical Medicine

With the territorial expansion of the United States begun in 1898, and with the subsequent acquisition by our government of tropical possessions, both in the eastern and western hemispheres, and with our greatly increased trade relations with many other tropical and subtropical countries, new demands were created for an accurate knowledge of the diseases prevailing in these countries, and for their prevention. There then came an urgent need for well trained men, both for the investigation of these problems in the tropics, and for the introduction of proper sanitary measures in these regions in relation to preventive medicine. Up to the present time it has not been possible to supply men always who have been properly fitted for this work, or those who are best qualified to carry it on most successfully.

In no field of medicine will the student of today find greater opportunities for original investigation than in exotic medicine. Students interested in public health work should also consider that

while so much has been done in the discovery of the causes of tropical diseases, the most profitable application of these researches obviously lies in the direction of prevention. The opportunities in public health work in exotic countries are much more abundant than in this one, and the triumphs which have been obtained in preventive medicine in tropical and subtropical regions are even more brilliant than those which have been obtained in temperate ones. Students with the missionary spirit should bear in mind that the opportunities in exotic countries for medical work from a humanitarian standpoint cannot be equalled.

Positions Available

In regard to positions available particularly for American physicians well trained in tropical and exotic medicine, it may be stated that in addition to the opportunities furnished for the practice of medicine in the southern United States and our tropical dependencies, our various civil government medical services furnish excellent opportunities in tropical and subtropical stations for physicians in hospital, public health, or laboratory work. The Rockefeller International Health Commission can also furnish a career to men properly trained in tropical medicine, and the United Fruit Company of New York and Boston has an extensive medical service under the direction of Dr. William E. Deeks, and likewise offers attractive opportunities to young men. The Harvard School of Tropical Medicine also has vacancies on its staff for competent workers in this subject.

Unusual Advantages of the School

The subjects embraced in the courses of study have been selected with the idea of giving the student a broad and thorough training in tropical and exotic medicine. One of the advantages which this University possesses for this work is its ability to offer the combined resources of a number of Departments and eminent teachers who are recognized authorities in their several subjects.

Besides the teachers from the Medical School and the Graduate School of Medicine, the following gentlemen from other Departments of the University will take part in the instruction: William

M. Wheeler, Ph.D., S.D., Professor of Economic Entomology, and Dean of the Faculty of the Bussey Institution, and Charles T. Brues, S.M., Assistant Professor of Economic Entomology, who will teach Tropical Entomology; Robert DeCourcy Ward, A.M., Professor of Climatology, who will teach Tropical Climatology; George H. Parker, S.D., Professor of Zoölogy, who will teach General Zoölogy; Oakes Ames, A.M., Assistant Professor of Botany, and Director of the Botanic Garden, who will give instruction on Tropical Plants; William T. Bovie, Ph.D., Research Fellow in Physics for the Cancer Commission, who will lecture on Tropical Sunlight; and Thomas Barbour, Ph.D., Associate Curator, Museum of Comparative Zoölogy, who will give a course on Venomous Animals.

The collections of the Medical School and of other Departments of the University contain much valuable material for the study of exotic and tropical diseases, and such material will be continually added to by expeditions sent to the tropics for this purpose. One of these expeditions was sent to South America in 1913, and brought back valuable collections. Other expeditions are planned for the future. In March, 1915, Dr. Strong received the appointment of Director of the American Red Cross Sanitary Commission to Serbia. Dr. Strong and Dr. Sellards served there during the spring and summer months in the campaign against typhus fever and this work took the place of the expeditions formerly sent out by the School. A rich supply of material for study and investigation will result from this undertaking. During the summer of 1916 Drs. Sellards and Bovie went to Santa Marta, Colombia; Dr. William L. Moss and members of the Museum of Comparative Zoölogy of Harvard University, to Peru; and Dr. Louise Pearce, to Guatemala, for scientific investigation with relation to tropical medicine and zoölogy. The laboratory facilities of the Harvard Medical School are unequalled, and with these facilities and teachers the training in laboratory diagnosis so important in tropical medicine will be especially thorough.

The opportunities for the clinical study of tropical diseases are also good. Boston is one of the most important seaports of the country, and many cases of tropical diseases are received in its hospitals annually. This number will undoubtedly increase with the

development of trade routes through the Panama Canal. Arrangements have been made by which practically all these cases will be available for clinical study. The Massachusetts General Hospital established a sub-department of tropical medicine under the department of medicine, with ten beds assigned to the service. Dr. Strong has been appointed chief of this service. He has also been appointed Consulting Physician on Tropical Diseases at the Boston City Hospital. Although no definite assignment of beds has been made, Dr. Strong will have full privilege of the wards for cases of tropical disease admitted to this hospital. These arrangements will make possible the concentration of cases in these two hospitals and will greatly increase the value of the clinical opportunities. In addition, arrangements have been made for the study of the cases of tropical diseases which are received at the United States Marine Hospital at this port. The Massachusetts leper colony at Penikese Island affords an excellent opportunity for the study of leprosy.

Unusual and special opportunities will be afforded those students who in addition to obtaining the Diploma in Tropical Medicine wish to pursue their studies further, or those who are candidates for a Degree in Tropical Medicine. The Director of the Harvard School of Tropical Medicine also holds the position of Director of the Laboratories of the Hospitals and of Research Work of the United Fruit Company, and by arrangement with the Directors of this Company, and of Dr. William E. Deeks, General Superintendent of the Medical Department, a limited number of such students will be sent to stations in Central America; there, while pursuing their investigations and performing the necessary clinical or laboratory work in the United Fruit Company's hospitals, they will receive their board and lodging and have their laundry work done free of charge.

Tuition for the full course is $100. Laboratory material and animals used in individual experiments by students will be charged for at cost.

REQUIREMENTS FOR ADMISSION

The School of Tropical Medicine will be open to graduates from recognized medical schools. Properly qualified students (not necessarily graduates of medicine) will be admitted to single courses or to any number of courses which they may care to select from the various subjects offered. Students in the Harvard Medical School may also select courses in the School of Tropical Medicine. The Diploma in Tropical Medicine will, however, not be granted to anyone not holding the degree of Doctor of Medicine from a recognized school, or to anyone who has not completed the entire courses in tropical medicine at this School, or passed the examinations for the same. The requirements and form for a Degree in Tropical Medicine are under consideration.

Admission of Women

Women may be admitted to the School of Tropical Medicine on the same terms as men, and are equally eligible for the Diploma in Tropical Medicine or the Degree in Tropical Medicine.

APPLICATION AND REGISTRATION

Application for admission to the School should be made to the Director, and should be accompanied by a full statement of the applicant's qualifications, including his educational history and the statement as to whether he desires to take the entire course or individual courses. Such certificates as he may possess from other institutions should also be presented for examination. A statement should also be made as to whether he is a candidate for the Diploma in Tropical Medicine.

Each student before being admitted to courses of instruction must register at the office of the Dean of the Graduate School in the Administration Building.

Prompt enrolment is urged, since owing to conditions in various of the courses it will be practically impossible for students to enter after the opening day.

DIPLOMA IN TROPICAL MEDICINE

Candidates who are graduates from the Harvard Medical School, or another Medical School of recognized standing, and who have completed the full course in tropical medicine, have passed all the required examinations for the same, and who have also complied with all other requirements, will be given a Diploma in Tropical Medicine.

FEES

The tuition fee for candidates for the Diploma in Tropical Medicine, and for all other students pursuing all of the regular courses in the School, is $100 for the school year, and must be paid in advance on or before the first day of the opening of the School.

Special students who do not pay the regular fee must pay a special fee for each course taken. All fees should be paid at the office of the Dean of the Graduate School in the Administration Building of the Harvard Medical School. Checks and money orders should be made payable to the Harvard Graduate School of Medicine.

Laboratory material and animals used in individual experiments by students will be charged for at cost.

OFFICERS OF INSTRUCTION

Richard P. Strong, Ph.B., M.D., Sc.D., *Professor of Tropical Medicine.*

Harold C. Ernst, M.D., A.M., *Professor of Bacteriology.*

Milton J. Rosenau, M.D., A.M., *Professor of Preventive Medicine and Hygiene.*

William M. Wheeler, Ph.D., S.D., *Professor of Economic Entomology,* and *Dean of the Faculty of the Bussey Institution.*

Robert DeC. Ward, A.M., *Professor of Climatology.*

George H. Parker, S.D., *Professor of Zoölogy.*

Henry A. Christian, A.M., M.D., *Hersey Professor of the Theory and Practice of Physic.*

Ernest E. Tyzzer, A.M., M.D., *George Fabyan Professor of Comparative Pathology.*

Oakes Ames, A.M., *Assistant Professor of Botany* (*Bussey Institution*), and *Director of the Botanic Garden.*

Marshal Fabyan, A.B., M.D., *Assistant Professor of Comparative Pathology.*

S. Burt Wolbach, M.D., *Associate Professor of Pathology and Bacteriology.*

Charles T. Brues, S.M., *Assistant Professor of Economic Entomology.*

Thomas Barbour, Ph.D., *Associate Curator, Museum of Comparative Zoölogy.*

A. Watson Sellards, A.M., M.D., *Associate in Tropical Medicine.*

Harvey P. Towle, A.B., M.D., *Associate in Dermatology.*

William T. Bovie, Ph.D., *Research Fellow in Physics, Cancer Commission.*

Cleaveland Floyd, M.D., *Silas Arnold Houghton Assistant Professor of Bacteriology.*

Ernest L. Walker, B.A.S., S.D., *Lecturer on Tropical Medicine.*

William E. Deeks, M.A., M.D.C.M., *Lecturer on Tropical Medicine.*

Oscar Teague, M.S., M.D., *Lecturer on Tropical Medicine.*

Carlos Chagas, M.D., *Lecturer on Tropical Medicine.*

DESCRIPTION OF COURSES *

701. General Zoölogy.

George H. Parker, Professor of Zoölogy.

This course is intended for those who wish to obtain a comprehensive view of the subject, and to aid students in the courses in protozoölogy and helminthology. (Special courses in Zoölogy for women are arranged in Radcliffe College.)

702. Protozoölogy.

Ernest E. Tyzzer, George Fabyan Professor of Comparative Pathology.

The course in Protozoölogy will include a general discussion of the morphology and life history of the more important human protozoan parasites, such as the amoebae, flagellata (trypanosomes, the parasites of kala azar and oriental sore), sporozoa (malarial parasites) and ciliata. Their relations to their definitive and to intermediate hosts will also be discussed, together with phenomena of immunity. Methods for the cultivation of certain parasites and suitable procedures for collecting, staining, and mounting will be discussed.

703. Helminthology.

Ernest E. Tyzzer, George Fabyan Professor of Comparative Pathology.

The course in Helminthology will include the differentiation and classification of species and instruction in collecting, preserving, staining, and mounting the parasites and their ova, and the cultivation of the parasites when possible. The human cestodes, trematodes and nematodes will be considered in detail. Certain species of the acanthocephala, the pentastomida and hirudinea will also be discussed.

704. Venomous Animals.

Thomas Barbour, Associate Curator, Museum of Comparative Zoölogy.

The course will include the natural history of the various groups of venomous animals (except insects) with special reference to the origin, distribution, and abundance of those species which are dangerous to man, with discussions regarding the means of extermination. The poisonous effects produced and the methods of treatment will also be considered. The work will include lectures, outside reading, and a short report.

* As outlined at present, the systematic course will begin September 24, 1917, and cover a period of six months, but arrangements are now in progress whereby students may receive additional clinical instruction in a station in the tropics, preferably in one of the hospitals of the United Fruit Company, either in Central America or in northern South America. It is probable that at a later date the regular course of instruction will continue eight months, including these two months of clinical study in the tropics.

The time for individual courses is announced later.

705. Tropical Plants with Reference to Their Bearing on Tropical Medicine.

Oakes Ames, Assistant Professor of Botany and Director of the Botanic Garden.

This course will consist of lectures and demonstrations on the more important poisonous plants of the tropics, and is planned to give a comprehensive survey of those branches of Economic Botany that will prove helpful in tropical regions.

706. Tropical Entomology.

William M. Wheeler, Professor of Economic Entomology, and C. T. Brues, Assistant Professor of Economic Entomology.

This course will consist of a few general lectures on the structure and classification of the Arthropoda, followed by a more detailed account of the Arthropoda known to be concerned and likely to be concerned in the transmission of human and animal diseases or in the infliction of local injuries and physiological disturbances. Laboratory work and demonstrations will also constitute an important feature of the course and will provide for training in the dissection of insects, in the principal methods of studying their life histories and habits, and in their identification by means of dichotomic tables and from technical descriptions. The student will be provided with a list of most useful monographs and reference books on blood-sucking and disease-disseminating Arthropoda and should acquire an extensive acquaintance with this literature.

The following orders, families, and genera will be considered: —

1. Insecta, with particular reference to the Diptera, Suctoria, Siphunculata, Hemiptera, Hymenoptera, and Lepidoptera.
2. Myriopoda, including the Scolopendridae.
3. Arachnida, including the Scorpionidea, Araneina, and Acari.

707. Bacteriology.

Harold C. Ernst, Professor of Bacteriology; S. Burt Wolbach, Associate Professor of Pathology and Bacteriology; Cleaveland Floyd, Assistant Professor of Bacteriology; and Assistants.

This course will include the identification of the etiological factor and the diagnosis of the infection by laboratory methods, such as cultures, serum reactions, and the inoculation of animals, of the more important diseases including those of the tropics.

708. Pathology of Tropical Diseases.

This course will include the study of the macroscopic and histological lesions in the more important tropical diseases.

709. Clinical Laboratory Work.

A. Watson Sellards, Associate in Tropical Medicine.

This course will consist in a demonstration of the methods for obtaining and examining materials from tropical affections where a diagnosis may be made or aided by the microscope.

710. Comparative Pathology of Tropical Diseases.

MARSHAL FABYAN, Assistant Professor of Comparative Pathology.

This course will consist of a discussion of the etiology, pathology and immunology of the more important infections of domestic animals which may pass to man.

711. Infectious Diseases of Tropical Countries.

RICHARD P. STRONG, Professor of Tropical Medicine.

This course will consist of lectures, demonstrations, and laboratory work upon the more important infectious diseases particularly encountered in tropical and exotic countries. Special attention will be paid to the laboratory diagnosis of the various diseases considered.

712. Tropical Dermatology.

HARVEY P. TOWLE, Associate in Dermatology.

The aim of this course will be to give the student the greatest possible acquaintance with the manifestations of diseases in the skin and practical experience in their interpretation and treatment.

The plan of instruction includes — a preliminary period of instruction in principles; regular, clinical demonstrations of diseases and disease types; observation of the daily clinic; constantly increasing student clinical work; and frequent, informal, class discussions of selected cases. Especial emphasis will be laid upon student work and upon its proper correlation to tropical dermatology.

The facilities for instruction and for clinical work are unusual. Special beds for cases of skin disease make close and continuous clinical observation easy while special and general laboratories invite special research. An out-patient clinic of from 60 to 90 visitants daily assures numbers and variety. The close association and constant interchange with the numerous other departments of a large general hospital emphasize, most desirably, the relationship of Dermatology to General Medicine.

With these favorable factors in association, it is felt that the student may, justifiably, be assured of the best conditions for the acquisition of such practical knowledge and experience with the comprehension and consequent treatment of skin manifestations as will enable him to handle such tropical forms as he is likely to encounter both logically and confidently.

713. Preventive Medicine and Hygiene.

MILTON J. ROSENAU, Professor of Preventive Medicine and Hygiene.

The course consists of

(*a*) Lectures and demonstrations.

(*b*) Laboratory work.

(*c*) Sanitary survey and sanitary excursions.

(*a*) The lectures and demonstrations give a bird's-eye view of the subject and cover the topics found in Rosenau's book on "Preventive Medicine and Hygiene."

(*b*) The laboratory work includes the important methods of sanitary analysis.

(*c*) The sanitary survey. Each student is required to make a sanitary survey of some neighboring town; reporting on all public health problems of that town, together with careful criticisms and suggestions for improvement.

Special work may be taken after consultation with the head of the Department.

714. Tropical Climatology.

Robert DeCourcy Ward, Professor of Climatology.

This course will include a brief introductory discussion of climate in general, and an explanation of the use of the ordinary meteorological instruments, with special reference to tropical climatology. General characteristics of tropical climates and their controls: climate and weather in the tropics; temperature; the seasons; pressure; winds and rainfall; land and sea breezes; thunderstorms; cloudiness; intensity of sky-light. — Climatic subdivisions: the equatorial belt; trade wind belts; monsoon belts; mountain climates. — The climatologist's view of acclimatization in the tropics. — Brief comparative study of the climatology of the land area lying within the tropical zone, including a consideration of the varying conditions of the life of man as controlled by these various climates.

715. Tropical Sunlight.

William T. Bovie, Research Fellow in Physics, Cancer Commission.

This course will consist in a discussion of the biological effects of light and other forms of radiation, with special reference to those phenomena which affect living organisms, particularly in tropical countries.

716. Clinical Course in Tropical Diseases.

A. Watson Sellards, Associate in Tropical Medicine.

This course will consist of ward rounds and demonstration of tropical diseases, and such other conditions in internal medicine as are of special interest in connection with the more purely tropical infections. Particular attention will be given to this work through the month of March, and also throughout the year as special occasion arises.

UNIVERSITY OF ILLINOIS-URBANA
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OFFICIAL REGISTER OF HARVARD UNIVERSITY

[Entered March 6, 1913, at Harvard Station, as second-class matter, under Act of Congress of August 24, 1912.]

Issued at Cambridge: Station, Boston, Mass., three times each, in January, February, July, August, and September; eight times each, in March, April, May, and June; twice each, in October, November, and December.

These publications include:—

The Annual Reports of the President and of the Treasurer.

The Annual University Catalogue.

The Annual Catalogues of the College and the several Professional Schools of the University; the Descriptive Pamphlets; the Announcements of the several Departments; etc., etc.